

## REMARKS

Claim 43 is corrected to amend its dependency. Claim 29, from which it now depends, provides antecedent basis for (B1) and (B2). Step (2) is amended to more explicitly refer back to step (1), and step (3) is amended to more explicitly refer back to step (2)

### Rejection Under 35 USC § 112, Second Paragraph

Claims 43 and 44 stand rejected under 35 U.S.C. § 112, second paragraph as indefinite. This rejection is respectfully traversed as applied to the amended claims.

The dependency of claim 43 has been corrected. Claim 29, from which it now depends, provides antecedent basis for (B1) and (B2).

Step (2) of claim 43 has been amended to read, “the ground mixture from step (1),” referring to the product resulting in step (1) from grinding the resulting mixture.

Step (3) has been amended to read, “the resulting mixture of step (2),” referring to the product resulting in step (1) from adding the named constituents In the stated order to the ground mixture.

Applicants believe these amendments overcome the issues raised in the rejection. Claim 44 was held indefinite due to its dependency on claim 43, and thus does not require amendment itself. Applicants respectfully request withdrawal of the rejection and reconsideration of the claims.

### Allowable Subject Matter

Applicants sincerely appreciate the Examiner's careful consideration of claims 43 and 44 and the indication that they would be allowable if amended to overcome the rejection under section 112.

### Rejection Under 35 USC § 103 over Piana in View of Tanaka '536.

Claims 23, 24, 26-37, 40, 41, and 45 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Piana, U.S. Patent No. 5,739,204 in view of Tanaka et al., U.S. Patent No. 6,482,536. This rejection is respectfully traversed.

Applicants must respectfully disagree with the Examiner that the combination of Piana and Tanaka anywhere disclose conductive pigments or in any way would serve to make obvious a coating material for the coil coating process comprising a conductive pigment. Because the combined references do not in any way lead one to make a weldable coil coating, the person skilled in the art could not know or suspect that the claimed compositions could provide the unique properties arising from Applicants' invention.

As disclosed on pages 4 to 5, this invention addresses the problem of replacing cathodically deposited primers (cathodic electrodeposition primers) with a coil coating that allows lower baking temperatures, especially for bake hardened steels. It is important for these coil coatings to have extremely high mechanical integrity and to be spot weldable, with a still aesthetically appealing periphery. The coatings also feature a comparatively broad welding range and a comparatively low volume resistant, resulting in a particularly long lifetime for welding electrodes. The claimed coating materials produce coil coatings of extremely high mechanical integrity and particularly good weldability, especially in spot welding, producing

spot welds with a smoother, more aesthetically appealing periphery. Page 7, lines 7-19. The coatings have comparatively broad welding range, low volume resistance, and strong weld connections. Page 7, lines 19-25. The coil coatings also had outstanding mechanical properties, allowing deformation (during shaping) without problems. Page 7, lines 25-28. These properties were obtained at significantly lower PMTs (peak metal temperatures) on curing. Page 8, lines 1-4.

The Examples 1 and 2 (pages 28 to 32) demonstrate that the inventive coating remarkably achieves all these many, different requirements so as to allow replacement of a cathodic electrodeposition primer with a much more economical, environmentally friendly coil coating. Thus, the Example cured at a PMT of 154°C. Page 30, line 25. In contrast, prior art coating have a PMT of 200 to 260°C. Page 1, lines 20-22. The coating had a welding range (kA) of 1.9, a volume resistance of 0.0187 ohms, and allowed 1000 weld spots to be applied using one electrode. Page 31, line 28 to page 32, line 2. In addition, the quality of the weld spots was extremely high. Page 32, lines 2-3. Finally, the coating physical properties were extremely high, and the coating was outstandingly deformable. Page 32, lines 5-20.

The combined patents nowhere mention or suggest either conductive pigment or weldable compositions that would include conductive pigment. The Office Action refers to the passages at column 3, lines 12-14 and column 4, lines 23-27. Office Action page 4, line 1. Applicants respectfully point out that neither passage either mentions conductive pigment or any particular conductive pigment, nor does either in anyway suggest weldable coil coatings. The passage at column 3, lines 12-14 merely mentions "0-40 wt. % pigments." The other passage, which Applicants believe the Examiner meant to refer to lines 23-27 in column 5, does not mention conductive pigments or list any particular pigment that is indicated to be electrically

conductive or that would inherently be electrically conductive.

With that lacking, there is no reason for the person facing the problems Applicant faced to choose these references as starting points to overcome the problems Applicants faced. Neither reference provides any sort of guidance or expectation of success in achieving the success in weldability of Applicants' invention.

In addition, nothing in the references suggests the subject matter of dependent claim 31. The Office Action cites column 3, lines 3-8; however, this passage only concerns the amounts of formylation of the amino resins (e.g., the relative amount of formaldehyde to benzoguanamine used in making benzoguanamine-formaldehyde resin: this controls the relative reactivity of the benzoguanamine-formaldehyde resin toward the polyester).

Regarding claim 33, there is no mention in the references of the named electrically-conductive pigments. The claim is to a "electrically conductive pigment (C) selected from the group consisting of elemental silicon and metallic, water-insoluble phosphides." Silicates are not elemental silicon, and none of the pigments of Piana to which the Examiner refers is a metallic, water-insoluble phosphide (or any kind of phosphide, for that matter).

Regarding claim 35, Applicants find no support in the Tanaka '536 Table 1 or its related notes for the contention in the Office Action that Sylisia brand silicas are treated with aluminum tripolyphosphate or that the treatment results in aluminum ions in the silica. The Examiner states that aluminum tripolyphosphate is soluble, but Applicants find no evidence that it is soluble in Tanaka coating composition of Table 4, or that in the particular Tanaka coating composition, made as described at col. 13, line 65 to column 14, line 6, it would produce the effect the Office Action supposes. Applicants are skeptical and ask the Examiner to produce evidence that such "treatment" would in fact take place.

Claims 36 and 37 are also separately patentable. The Office Action refers to “Epikote<sup>tm</sup> catalyst” but there is no such thing in column 14 or in Table 1. Epikote 1010, at lines 30-35, is a resin that crosslinks in the film, not a catalyst (“bisphenol A type epoxy resin solution having a solid content of 40%, resin number average molecular weight about 5,5000, glass transition temperature about 70° C.”). See also Tanaka ’536 col. 4, ll. 20-57 (discussing bisphenol-type epoxy resins; these are not the phosphoric acid adducts described by Applicants). The only catalyst Applicants find in the compositions of Table I is Nacure 5225. Thus, no prima facie case of obviousness has been made out for claims 36 and 37.

For each of these reasons, Applicants respectfully request withdrawal of the rejection and reconsideration of the claims.

Rejection Under 35 USC § 103 over Piana in View of Tanaka ’536 and Smith et al.

Claim 25 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Piana, U.S. Patent No. 5,739,204 in view of Tanaka et al., U.S. Patent No. 6,482,536, and further in view of Smith et al., U.S. Patent No. 5,852,162. This rejection is respectfully traversed.

Applicants submit that claim 25 is patentable over the cited combinations of references for the same reasons discussed in the section about with regard to independent claim 23. The Smith patent is cited as teaching a particular polyester resin. The Smith patent fails, however, to provide the teachings missing from the first two references with regard to underlying independent claim 23, or to explain why such compositions should be further modified, or how such modifications could be expected to successfully produce Applicants’ invention.

Thus, for the same reasons, Applicants respectfully request withdrawal of the rejection and reconsideration of claim 25.

Rejection Under 35 USC § 103 over Piana in View of Tanaka '536 and Rees

Claim 42 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Piana, U.S. Patent No. 5,739,204 in view of Tanaka et al., U.S. Patent No. 6,482,536, and further in view of Rees, U.S. Patent No. 4,826,899. This rejection is respectfully traversed.

The Rees patent is nonanalogous art and is, therefore, unavailable to support an obviousness rejection. To be analogous art, the reference must either be in the field of Applicants' endeavor or be reasonably pertinent to the particular problem that Applicants sought to resolve. *In re Clay*, 23 U.S.P.Q.2d (BNA) 1058, 1060 (Fed. Cir. 1992). See also *Andersen Corp. v. Pella Corp.*, 2008 U.S. App. LEXIS 24087 (Fed. Cir. Nov. 19, 2008) (nonprecedential) (evidence earlier mesh not part of insect screen manufacturing filed and prior art would teach away from using that mesh raises issue on obviousness; further evidence mesh would not meet objective of invention); compare, *In re Lam*, 2002 U.S. App. LEXIS 9704 (reference was analogous art because reasonably pertinent to inventor's problem). The Rees patent concerns low smoking, flame resistant thermoplastics. Title; Abstract. The invention is directed to a composition useful for covering bundles of insulated telecommunication wires. Col. 2, ll. 13-17. The Rees invention seeks to overcome the problem of smoke generation when such compositions are burned. Col. 1, ll. 33-36 & 58-61; col. 2, ll. 19-22. Thus, the Rees patent is neither in the field of Applicant's invention, coil coating compositions, nor does it concern the problem of weldability that Applicants faced.

In addition, there would be not expectation that an additive in the Rees thermoplastic wire covering would behave in any predictable way in the significantly different thermoset coil coatings of the first two references.

Finally, the Rees patent fails to explain or accommodate the deficiencies of the first two references with regard to the features of underlying independent claim 23. Accordingly, for all of these reasons,

Applicants respectfully request withdrawal of the rejection and reconsideration of claim 42.

Rejection Under 35 USC § 103 over Piana in View of Yamada et al.

Claims 23, 24, 27-33, 40, and 45 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Piana, U.S. Patent No. 5,739,204 in view of Yamada et al., U.S. Patent No. 4,734,467. This rejection is respectfully traversed.

Just as in the case of the combination of Piana with the Tanaka patent, the combination of Piana and Tanaka do not anywhere disclose conductive pigments or in any way make obvious a coating material for the coil coating process comprising a conductive pigment with Applicants' disclosed unexpected advantages. Because the combined references do not in any way lead one to make a weldable coil coating, the person skilled in the art could not know or suspect that the claimed compositions could provide the unique properties arising from Applicants' invention.

As discussed above, this invention addresses the problem of replacing cathodically deposited primers (cathodic electrodeposition primers) with a coil coating that allows lower baking temperatures, especially for bake hardened steels, that has extremely high mechanical integrity, and that can be spot welded with a still aesthetically appealing periphery. The Examples 1 and 2 (pages 28 to 32) demonstrate that the inventive coating remarkably achieves all the many, different requirements so as to allow replacement of a cathodic electrodeposition primer with a much more economical, environmentally friendly coil coating.

As was true with respect to the first rejection, discussed above, the Piana patent does not anywhere disclose or suggest compositions containing electrically conductive pigments. For this reason, each of the claims is patentable over the combined references.

In addition, nothing in the references suggests the subject matter of dependent claim 31. The Office Action cites column 3, lines 3-8; however, this passage only concerns the amounts of formylation of the amino resins (e.g., the relative amount of formaldehyde to benzoguanamine used in making benzoguanamine-formaldehyde resin: this controls the relative reactivity of the benzoguanamine-formaldehyde resin toward the polyester).

Regarding claim 33, there is no mention in the references of the named electrically-conductive pigments. The claim is to a “electrically conductive pigment (C) selected from the group consisting of elemental silicon and metallic, water-insoluble phosphides.” Silicates are not elemental silicon, and none of the pigments of Piana to which the Examiner refers is a metallic, water-insoluble phosphide (or any kind of phosphide, for that matter).

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Applicants submit that claim 25 is patentable over the cited combinations of references for the same reasons discussed in the section about with regard to independent claim 23. The Smith patent is cited as teaching a particular polyester resin. The Smith patent fails, however, to provide the teachings missing from the first two references with regard to underlying independent claim 23, or to explain why such compositions should be further modified, or how



such modifications could be expected to successfully produce Applicants' invention.

Thus, for the same reasons, Applicants respectfully request withdrawal of the rejection and reconsideration of claim 25.

Rejection Under 35 USC § 103 over Piana in View of Yamada et al. and Tanaka '003

Claims 26, 34, and 36-38 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Piana, U.S. Patent No. 5,739,204 in view of Yamada et al., U.S. Patent No. 4,734,467 and further in view of Tanaka, U.S. Patent No. 5,623,003. This rejection is respectfully traversed.

Applicants submit that each of claims 6, 34, and 36-38 is patentable over the cited combinations of references for the same reasons discussed in the section about with regard to independent claim 23. The Tanaka '003 patent is cited as teaching certain features of these dependent claim but it fails, however, to provide the teachings missing from the first two references with regard to underlying independent claim 23, or to explain why such compositions should be further modified, or how such modifications could be expected to successfully produce Applicants' invention.

Further, claims 36-38 are separately patentable over the combination of references because, as explored in more detail above, the epoxy resins of the Tanaka '003 patent are not the acidic epoxy resin-phosphoric acid adducts of Applicants' claims, but rather are just epoxy resins.

Thus, for all of these reasons, Applicants respectfully request withdrawal of the rejection and reconsideration of claims 26, 34, and 36-38.

Conclusion

It is believed that a full and complete response has been made to the Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1220.

Respectfully submitted,



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